



HOW-TO BOOKLET #3143

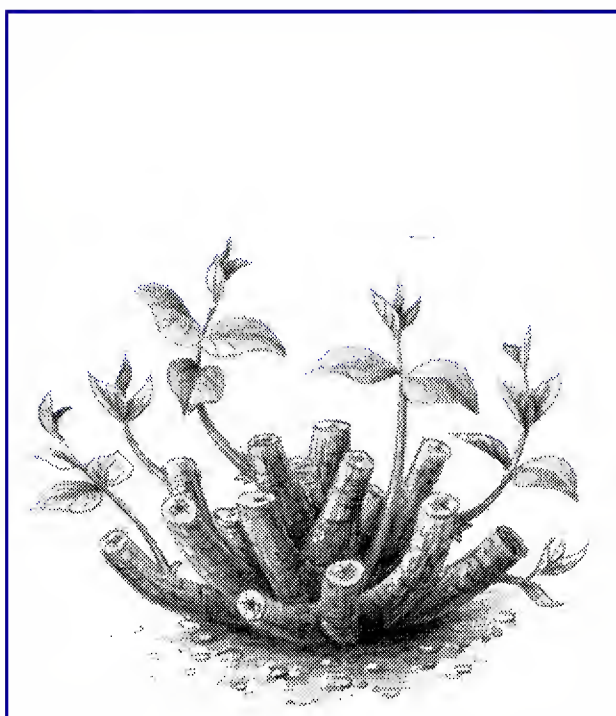
PRUNING TREES & SHRUBS



TOOL & MATERIAL CHECKLIST

- ☐ Pruning Shears
- ☐ Pruning Saw
- ☐ Gardening Gloves
- ☐ Loppers
- ☐ Wheelbarrow or Garden Cart

Read This Entire How-To Booklet For Specific Tools and Materials in The Basics Listed Above



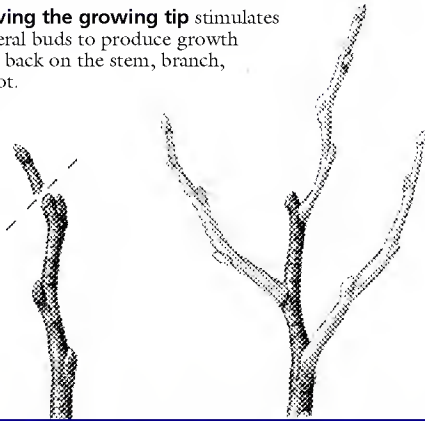
Of the many gardening tasks, few are as daunting to beginning gardeners as pruning trees and shrubs. Having invested considerable time and money in planting and caring for these plants, gardeners understandably hesitate to start lopping pieces off of them. Following a few basic principles, guided by an understanding of the reasons for pruning and the consequences of doing so, anyone can prune successfully. In this How-To Booklet, we'll introduce the basics of pruning, including the right tool, the right technique, and the right timing. We'll also provide a sound foundation of pruning know-how.

WHY PRUNE?

Gardeners prune for two reasons: to maintain and enhance a plant's health and the extent and form of its growth. Health-related pruning is, for the most part, commonsensical. Branches and stems die naturally. Some contract diseases; others are damaged by snow, wind, or excited children. Removing them improves the plant's health and appearance. Sometimes plants grow too densely and require pruning to allow light and air. Drastic pruning can reinvigorate certain plants that have grown old. The second category of pruning is more subjective—your idea of an ideal plant shape and your neighbor's may differ completely. Some people train, trim, and shape plants into various sorts of shapes. Others try to maintain or enhance the shape nature provides. On occasion to prune to encourage bushy or compact growth or to direct growth in a certain direction. Too often gardeners spend hours pruning to maintain plants that are

Fig. 1: Pruning encourages growth

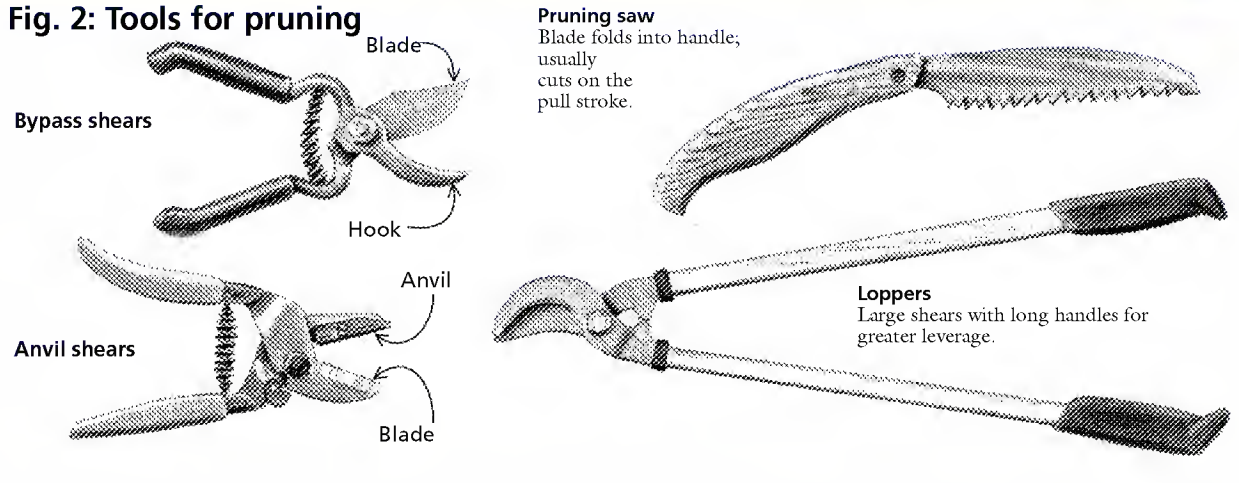
Removing the growing tip stimulates the lateral buds to produce growth farther back on the stem, branch, or shoot.



older neighborhood yields examples of shrubs and trees grown over windows, crowding foundations, or towering over their surroundings. Examples of sun-loving plants struggling in the shade, or vice versa, are also common. You can avoid long-term pruning headaches by choosing trees and shrubs carefully. Select plants whose mature size fits their site. Match the conditions of the site with the plant's preferences for sun, soil, and moisture.

To a novice, pruning may appear to be a purely reductive activity, the point of which is to end up with less than you had. While this is sometimes true, much pruning is in fact done to encourage growth. A little plant physiology will help you understand how this is possible, and help you to anticipate the consequences of the pruning cuts you make.

All plants produce growth hormones, called auxins, in the tips of growing shoots. Auxins stimulate growth at the tip and suppress it along the sides of the shoot. Removing the growing tip and its supply of auxins releases some of the buds along the shoot, called lateral buds, from dormancy, allowing them to form side shoots, as shown in **Fig. 1**. Although the strength of auxins varies among plants, in general, pruning that removes a growing tip will induce growth on the shoot, stem, or branch that remains.

Fig. 2: Tools for pruning

(Some conifers—junipers, arborvitae, hemlocks, and many pines—won't generate new growth if cut back to wood that is too old.)

Much of the pruning we do enlists this phenomenon. We shear yew or privet to create a dense hedge; we head-back roses to outward-facing buds to stimulate an open framework of lateral canes. Sometimes the consequences of such pruning are unintended—attempts to shape a forsythia or spirea may result in an awkward thicket of lateral shoots. Think before you prune.

PRUNING TOOLS

The tools shown in **Fig. 2** will handle all the pruning most gardeners will tackle.

Pruning shears. Many gardeners take a pair of pruning shears (sometimes called clippers) with them whenever they head for the garden. There are two basic types of shears. Bypass shears work like scissors; a convex blade beveled sharp on one face slides past a blunt “hook” that supports the stem. On anvil shears a single blade cuts against the center of a soft metal surface, the anvil, which supports the stem. Bypass shears make a cleaner cut; anvil shears can handle thicker material.

Pruning saw
Blade folds into handle; usually cuts on the pull stroke.

Loppers
Large shears with long handles for greater leverage.

Loppers. These heavy-duty pruners are essentially enlarged bypass or anvil shears with long handles to provide greater leverage. In addition to cutting heavier material, they're handy for getting at spots that would scrape your arms if you tried reaching them with shears. If you're not a strong-arm sort, look for loppers with a ratchet mechanism; these require less strength to do the same job.

Pruning saw. A folding pruning saw with a handle and a slightly curved blade, each about 1 ft. long, is useful for trimming tree limbs and the heavier woody growth of shrubs and roses. Made of hard steel with very sharp teeth, these saws last quite a while between sharpenings or blade replacements.

PRUNING SHRUBS

A quick look around your town will confirm that there are many, many different kinds of shrubs, and the range of shapes and sizes is even greater. We can't begin to provide specific instructions for pruning them all; even if we could, your particular plants will always differ in some way from our general examples. When you purchase a shrub, ask about the specifics of pruning it.

Fortunately, a relatively small number of general

principles and practices serve a wide variety of plants. We'll discuss these here, but we also encourage you to seek advice from experienced gardeners. The best way to learn to prune is to watch an expert work on shrubs like yours.

When to prune. Because dead, damaged, or diseased stems, branches, and shoots are prime sites for diseases and insects, remove them as soon as possible. If you're just snipping a healthy stem or branch here or there, you can do this almost anytime. More extensive pruning of healthy growth is best done at specific times of the year.

For flowering shrubs, the timing depends on whether the plant blooms on new or old growth. Spring-flowering shrubs, such as forsythia and lilacs, usually bloom on growth formed the previous year, so it makes sense to prune them after they bloom. Plants that flower later, such as potentilla and crape myrtle, bloom on the current season's growth. Prune them in late winter or early spring. Plants that bloom more than once are best pruned when they're dormant.

When flowers aren't a consideration, you have greater flexibility. The structure of deciduous plants is easiest to see before they leaf out, so winter or early spring is a good time to prune. Prune in the spring if you wish to encourage a bushy habit, to stimulate or direct growth; this allows a full season for the new growth to develop. Gardeners in cold-winter climates should be wary of pruning in the fall. Any new growth induced will be more susceptible to damage from cold, wind, and snow.

Light pruning. Many shrubs thrive for years with a minimum of pruning. Still, using some of the following pruning techniques can benefit such plants.

- Pinch or cut off growing tips in the spring to force shrubs into bushier, more compact forms.
- The flowering of some shrubs can be enhanced by pinching. Rhododendrons and azaleas, for example, will produce more flowers if crowded buds are thinned by pinching in the fall.

Fig. 3: A well-placed cut

To cut a stem or branch back to a bud, make the cut at about 45°. The bottom of the cut should be level with the top of the bud.

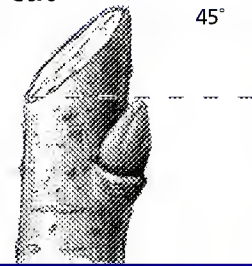
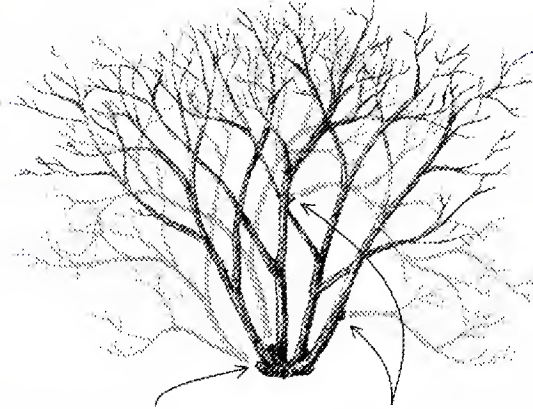


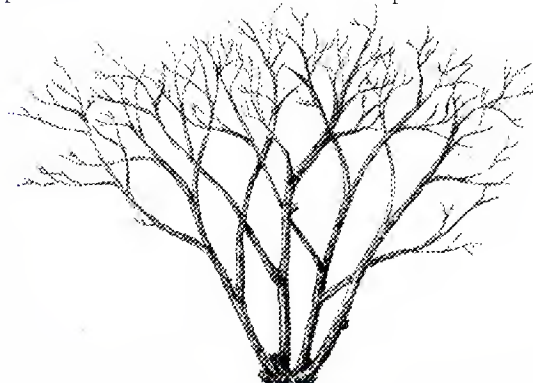
Fig. 4: Thinning a shrub

A dense, over-crowded shrub looks unsightly and is prone to disease. Thinning opens the interior of the bush to light and air.



You may cut some stems all the way back to the plant's crown.

Or you can cut lateral branches back flush with their parent.



- Pinching off spent flowers, called deadheading, can encourage bud formation as well as directing energy that would otherwise be spent on forming seeds toward roots and shoots. (Unlike many annuals, few flowering shrubs will bloom a second time in a year if deadheaded.)

- Cutting more than just the growing tip is called heading back. Stems are usually headed back to a lateral bud. Cutting whole stems back to the plant's crown or severing lateral branches at the crotch where they arise is called thinning.

- Stems or branches that cross the center of a bush are often headed back or thinned to allow in more light and air, reducing incidences of diseases that breed in the humid conditions of dense growth. Similarly, removing a stem that rubs on a neighbor eliminates a common cause of damaged tissue.

- Stems or branches may be headed back to encourage branching into a particular area. Find a bud facing the direction you want a branch to grow and cut just above it. (See Fig. 3)

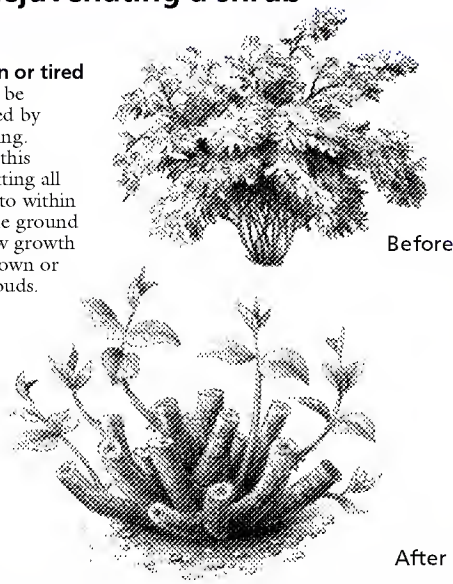
- New shoots arising at the base of stems or from roots are called suckers. A few may be desirable; many can produce a thicket. Cut them off flush with the stem base; pull up those sprouting from roots.

Rejuvenation. Some shrubs can be pruned heavily each year in order to produce robust new growth the following growing season. Spirea, plumbago, and others are often cut back almost to the ground. Other shrubs may be cut back to old wood or to just a few buds on new wood. (Some shrubs will die back to the ground in colder climes but renew themselves each spring. Cut these to the ground in the winter or early spring.)

Heavy pruning can also bring new life to overgrown or tired shrubs. Some shrubs, such as mahonia, may

Fig. 5: Rejuvenating a shrub

Overgrown or tired shrubs can be reinvigorated by heavy pruning. Sometimes this involves cutting all stems back to within inches of the ground to force new growth from the crown or remaining buds.



be cut almost to the ground. Lilacs and cotoneaster, on the other hand, can be renewed by cutting stems to several feet or longer. You can renew a shrub in stages, cutting one-third of the stems back hard one year, another third the next year, and the remainder in the third year. Sometimes you can nurture selected suckers as replacement stems.

Heavy pruning can be risky. Certain plants, including a number of conifers, do not renew from old wood. Before embarking on rejuvenation, consult with an expert to determine the best method.

PRUNING TREES

A well-formed tree chosen with the conditions of the site in mind, planted correctly, and watered and fed appropriately should require little pruning when young and even less as it matures. This is particularly true of conifers, which may not need the attention of a pruning saw for years.

In many ways, trees are no more difficult to prune than shrubs, and many of the techniques are the

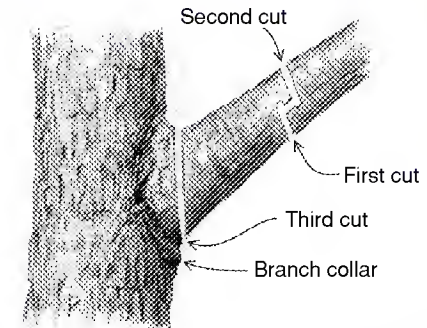
same. What complicates matters for tree pruning is size—removing a 6-in.-diameter branch growing 30 ft. above the ground can be both difficult and dangerous. We urge you to call on professional arborists for such tasks. There is still much you can do while standing firmly on the ground.

When to prune. As for shrubs, remove dead, damaged, or diseased wood as soon as possible. Likewise, if flowers are one of the tree's attractions, prune according to whether they bloom on old wood (prune after flowering) or new wood (prune in late winter or early spring). In general, late winter is a good time to prune. Deciduous trees have yet to leaf out, making it easy to see branching patterns. Pruning wounds have a full growing season to close, and new growth induced by pruning will be well formed and ready for the rigors of winter.

Some trees, such as maples and birches, “bleed” if pruned when sap is rising, increasing the chances of infection. Other trees are also more susceptible to particular diseases if pruned at certain times of the year, so it pays to consult with an expert before doing any major pruning on a tree you're not sure about.

How to prune. For trees, pruning ranges from pinching off buds with your fingertips to removing huge branches with a chain saw. Although the scale may be different, the purposes of pruning are the same as those we've discussed previously.

- 📌 Pinching and heading back are useful techniques for affecting the shape of young trees. If you'd like to encourage branching into a particular area, trim just above a bud facing in the desired direction.
- 📌 You can open a tree to air and sun by thinning overcrowded branches and by removing those that cross the center.
- 📌 Trees characterized by a columnar shape often have a dominant central trunk, called a leader. Oaks, pines, and spruces are good examples. If these trees have two leaders when young, you can trim the second leader back to its base (best

Fig. 6: Pruning off a large branch

To prevent tearing, cut large branches in three stages as shown here. Making the final cut along the branch collar gives the tree a better chance to close the wound efficiently.

for conifers) or cut it back by half its length to ensure that the tree develops the desired shape.

- 📌 Do not cut off, or “top,” the central leader of a columnar tree. The sad results of such pruning can be seen wherever power companies have “pruned” trees away from their lines. Better to remove the tree and plant one that won't grow so tall.
- 📌 Sometimes mature branches develop unattractive thin vertical shoots called water sprouts. Remove these by cutting flush with the parent branch.
- 📌 Occasionally, you'll want to remove a larger branch, perhaps to create headroom, to allow more sunlight beneath the tree, or to improve its general appearance. To do so, make a series of cuts as shown in **Fig. 6**, to avoid tearing. Don't cut flush with the trunk, but instead cut along the branch collar, a swelling at a branch's point of origin.
- 📌 Research seems to show that wound dressings cause as many problems as they prevent. When cuts are made properly, a healthy tree is able to close the wound and protect itself from disease.